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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,374	09/23/2003	Ayumu Oda	4492-0108P	9210
2292	7590	12/29/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HINZE, LEO T	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,374

Applicant(s)

ODA ET AL.

Examiner

Leo T. Hinze

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 2, 5 and 7-10 is/are allowed.
- 6) ☒ Claim(s) 3 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Avants, US 5,235,348 (Avants).

Avants teaches an optical writing device comprising: a writing head (28, Fig. 1) including a plurality of light emitting portions (76, Fig. 3) aligned in an array (77, Fig. 9A) for irradiating an exposure object with light. the writing head having opposite first and second ends; a first support member (36, Fig. 2) supporting the first end of the writing head; a second support member (37, Fig. 2) supporting the second end of the writing head; and a connecting member (34, 35, Fig. 3) interconnecting the first support member and the second support member while maintaining a positional relationship between the first support member and the second support member; the connecting member having a configuration which is more easily deformable than any one of the first support member, the second support member and the writing head. In Fig. 3, it appears that item 29 has a higher bending moment of inertia due to the multiple ribs 31 than members 34 or 35, which appear to be slender with few features to increase their bending moment of inertia.

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3. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Mochimaru et al., US 4,703,334 (Mochimaru).

Mochimaru teaches an optical writing device comprising: a writing head (70, Fig. 12) including a plurality of light emitting portions (67, Fig. 11) aligned in an array (col. 7, lines 62-63) for irradiating an exposure object with light. the writing head having opposite first and second ends; a first support member (86, Fig. 12) supporting the first end of the writing head; a second support member (87, Fig. 12) supporting the second end of the writing head; and a connecting member (92, Fig. 12) interconnecting the first support member and the second support member while maintaining a positional relationship between the first support member and the second support member; the connecting member having a configuration which is more easily deformable than any one of the first support member, the second support member and the writing head. In Fig. 12, it appears that item 69 has a higher bending moment of inertia due to the multiple ribs 83, 84 than member 92, which appear to be slender with few features to increase their bending moment of inertia.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mochimaru in view of Uchiyama et al., US 6,278,471 (Uchiyama).

Mochimaru teaches the connecting member formed of a thin metal sheet (col. 9, lines 20-25). Mochimaru is silent as to the material of construction of the first and second support members.

Mochimaru does not teach the first and second support members being made from a resin.

Uchiyama teaches an image forming apparatus with an LED exposure head that uses resin for various parts of the head because resin reduces the overall weight of the head (col. 7, lines 24-26).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mochimaru to use resin to construct the first and second supports, because Uchiyama teaches that resin helps reduce the weight of components.

Response to Arguments

6. Applicant's arguments filed 13 October 2004 with regard to claim 3 have been fully considered but they are not persuasive.

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In response to applicant's argument that the limitations of claim 3 are not shown inherently or specifically in the reference, Avants does show a connecting member having a configuration which is more easily deformable than every one of the first support member, the second support member and the writing head. Because the connecting member is long and slender, it will deform more easily than the short first and second support members. The connecting member will deform more easily than the writing head if bent along the proper bending axis, because, due to features such as the cooling fins (31, Fig. 3), the writing head appears to have a greater moment of inertia than the connecting member.

Allowable Subject Matter

7. Claims 1, 2, 5 and 7-10 are allowed.
8. The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 7, the prior art of record does not teach or render obvious an optical writing device having all of the structure as claimed, including a connecting member formed of a material which is more easily deformable than any one of the first support member, second support member, and writing head.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

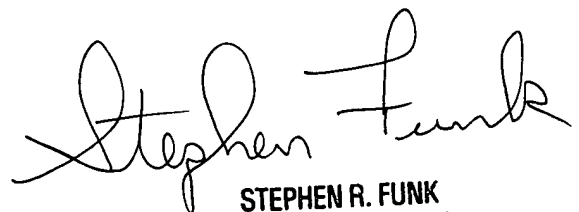
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo T. Hinze
Patent Examiner
AU 2854
23 December 2004



STEPHEN R. FUNK
PRIMARY EXAMINER